

ABSTRACT OF THE DISCLOSURE

An object of the present invention is to provide a method and a system for forming a copper thin film by a chemical vapor deposition method which can improve the adhesion performance of a copper thin film to a substrate and which can form the copper thin film having a high film quality.

In a method and a system for forming a copper thin film in which a raw material gas is introduced into a substrate processing chamber storing a substrate and being under a reduced pressure to form a copper thin film on the substrate, an addition gas is introduced into the substrate processing chamber in addition to the raw material gas at the initial stage of deposition and, thereafter, the introduction of the addition gas is stopped, whereas the introduction of the raw material gas is continued; or an addition gas is introduced into the substrate processing chamber before the start of deposition process, and the addition gas is introduced into the substrate processing chamber in addition to the raw material gas at the initial stage of deposition and, thereafter, the introduction of the addition gas is stopped, whereas the introduction of the raw material gas is continued.